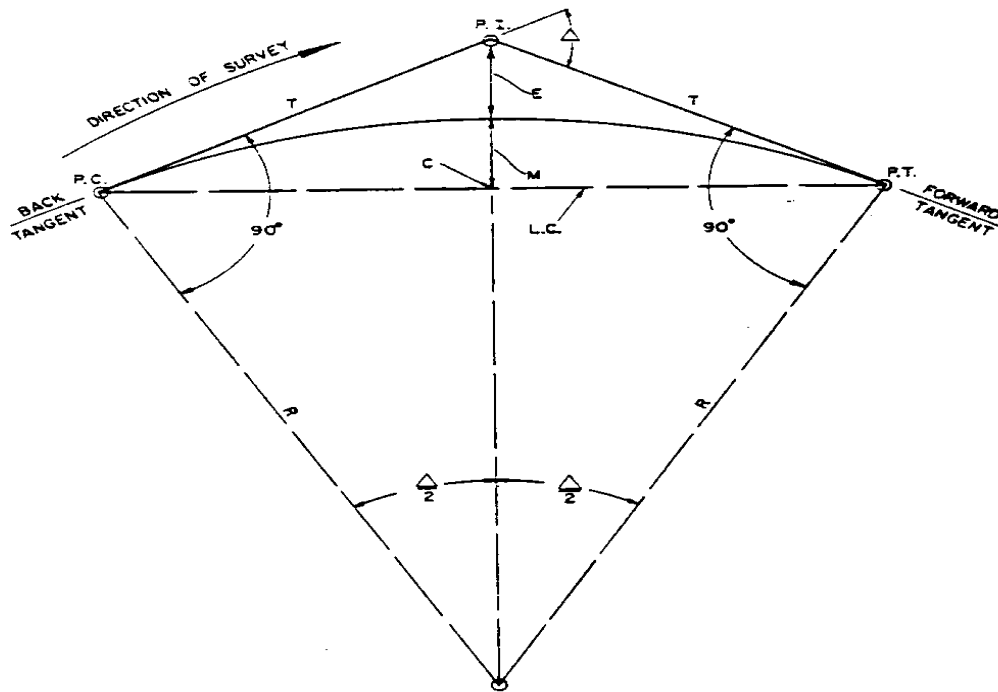## 1303 CURVE COMPUTATION BY ARC DEFINITION

P.I. = POINT OF INTERSECTION
P.C. = POINT OF CURVATURE
P.T. = POINT OF TANGENTCY
Δ = DEFLECTION ANGLE
      BETWEEN THE TANGENTS
T   = TANGENT DISTANCE

E   = EXTERNAL DISTANCE
R   = RADIUS OF THE CIRCULAR ARC
M   = MIDDLE ORDINATE
L.C. = LONG CHORD
      (DISTANCE BETWEEN P.C. AND P.T.)
C   = MIDPOINT OF LONG CHORD
D   = DEGREE OF CURVATURE

GENERAL FORMULAS FOR ARC DEFINITION

$T = R \ TAN \ (\Delta / 2)$

$D = 5729.578 / R$

$L.C. = 2 \ R \ SIN \ (\Delta / 2)$

$E = T \ TAN \ (\Delta / 4)$

WHEN 'R' IS KNOWN, $E = R \ SEC \ (\Delta / 2) - R = R \ EXSEC \ (\Delta / 2)$

$M = E \ COS(\Delta / 2)$

WHEN 'R' IS KNOWN, $M = R \ (1 - COS(\Delta / 2)) = R \ VERS \ (\Delta / 2)$

LENGTH OF CURVE, $L = (100 \ \Delta) / D$ WHEN Δ AND 'D' ARE IN MINUTES

LOCATING THE P.C. AND P.T.

STA. P.C. = STA. P. I. - T

STA. P.T. = STA. P.C. + L